

What is claimed is:

1. A method for distinguishing between biomolecule crystals and non-biomolecule crystals comprising the steps of:
 - (a) providing electromagnetic radiation to a sample comprising a crystal of interest, wherein the electromagnetic radiation is of more than one type of electromagnetic radiation;
 - (b) allowing the electromagnetic radiation to interact with components of the crystal of interest; and
 - (c) detecting effected changes, if any, in the quantity or character of the electromagnetic radiation, whereby a biomolecule crystal can be distinguished from a non-biomolecule crystal.
2. The method of claim 1 wherein the more than one type of electromagnetic radiation vary from one another with respect to polarization.
3. The method of claim 1 wherein the more than one type of electromagnetic radiation vary from one another with respect to wavelength.
4. The method of claim 3 wherein the electromagnetic radiation of a) comprises radiation of at least two different wavelengths and wherein there is an effected change in the quantity or character in the electromagnetic radiation of at least one of the wavelengths.
5. The method of claim 4 wherein the wavelengths are within the ultraviolet region of the spectrum and the visible region of the spectrum and wherein

significantly greater absorption in the ultraviolet spectrum than the visible spectrum indicates that the crystal is a biomolecule crystal.

6. The method of claim 1 wherein the crystal comprises a polypeptide.
7. The method of claim 1 wherein the crystal comprises a nucleic acid.
8. The method of claim 1 wherein the provided electromagnetic radiation of a) is ultraviolet and visible light and the effected changes of c) is the relative absorption of ultraviolet light and the relative lack of absorption of visible light, thereby distinguishing crystals causing the effected changes of c) as being biomolecule crystals.
9. A device adapted for distinguishing between biomolecule crystals and non-biomolecule crystals, comprising:
 - (a) a sample support, wherein a sample can be contained if provided;
 - (b) a first source for a first type of electromagnetic radiation, wherein the first type of electromagnetic radiation can be provided to the sample;
 - (c) a second source for a second type of electromagnetic radiation, wherein the second type of electromagnetic radiation can be provided to the sample;
 - (d) a first detector for the first type of electromagnetic radiation, wherein changes in the quantity or character of the first type of electromagnetic radiation can be detected; and
 - (e) a second detector for the second type of electromagnetic radiation, wherein changes in the quantity or character of the second type of electromagnetic radiation can be detected;

wherein the source for one type of electromagnetic radiation can be the source for one or more types of electromagnetic radiation and

wherein the detector for one type of electromagnetic radiation can be the detector for one or more types of electromagnetic radiation.

10. The device of claim 9 wherein the first type of electromagnetic radiation is light in the visible spectrum and the second type of electromagnetic radiation is ultraviolet light.

11. The device of claim 9 further comprising at least one biomolecule crystal provided in a sample.

12. The device of claim 11 wherein the biomolecule crystal is a polypeptide crystal.

13. The device of claim 11 wherein the biomolecule crystal is a nucleic acid crystal.

14. The device of claim 9 wherein the first type of electromagnetic radiation is polarized.

15. The device of claim 9 further comprising an automated system for providing a first sample and further samples.

16. The device of claim 15 wherein the device moves samples potentially containing crystals to be distinguished into the sample support and removes samples after electromagnetic radiation has been provided to the sample.

17. The device of claim 9 further comprising an automated system for positioning at least one electromagnetic radiation source and at least one electromagnetic radiation detector to provide at least one type of electromagnetic radiation to the sample and to detect changes in the quantity or character of at least one type of electromagnetic radiation.

18. The device of claim 17 wherein the device is positioned to provide electromagnetic radiation to a first sample and then repositioned to provide electromagnetic radiation to at least one further sample after electromagnetic radiation has been provided to the first sample.

19. The device of claim 17 wherein the device is positioned to detect changes in the quantity or character of at least one type of electromagnetic radiation caused by a first sample and then repositioned to detect changes in the quantity or character of at least one type of electromagnetic radiation caused by at least one further sample.

20. The device of claim 9 further comprising a recorder to record the changes in the quantity or character of the first and second types of electromagnetic radiation detected by the detectors of the apparatus.

21. The device of claim 20 wherein the recorder compares the changes in the quantity or character of the first and second types of electromagnetic radiation to predetermined identifier values, whereby if the changes correspond to predetermined identifier values indicative of the identity of the examined crystal, the recorder generates a signal or record indicating the identity of the examined crystal.

22. The device of claim 21 wherein the device further comprises a memory function, wherein the identity and location of examined crystals are recorded.

ATTORNEY DOCKET NO. 21085.0040U2

23. The device of claim 21 wherein the device further comprises a sorting mechanism, wherein examined crystals are sorted in accordance with the identity of the examined crystal.

24. The device of claim 21 wherein the device further comprises a counting mechanism, wherein examined crystals of specified identity are counted.